

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re application of:

JIANXING LI et al.

Serial No: 10/783,418

Filed: August 26, 2004

For: SPUTTERING TARGET
COMPOSITIONS, AND METHODS OF
INHIBITING COPPER DIFFUSION
INTO A SUBSTRATE

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Upon review of the Monthly Statement of Deposit Account of 10-31-05 (copy enclosed) an error was found. In particular, a fee of \$130.00 for application serial No. 10/783,418 for Statutory Disclaimer (fee code 1814) was charged to Koda & Androlia Deposit Account No. 11-1445 in error.

Applicant respectfully submits that the above-identified patent application serial No. 10/783,418 does not belong to Applicant. Moreover, as can be seen from the attached U.S. Patent Application Publication No. 2004/0166693, application serial No. 10/783,418 appears to belong to Wells St. John P.S. of Spokane, WA. Accordingly, it is believed that this fee of ~~\$180.00~~ *\$130.00 B.M.* should be charged to Wells St. John P.S.

It is therefore respectfully requested that the fee of ~~\$180.00~~ be credited to the account of the undersigned, namely Koda & Androlia Deposit Account No. 11-1445.

Respectfully submitted,

KODA & ANDROLIA

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(54) SPUTTERING TARGET COMPOSITIONS,
AND METHODS OF INHIBITING COPPER
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(57) ABSTRACT

The invention described herein relates to new titanium-comprising materials which can be utilized for forming titanium alloy sputtering targets. The titanium alloy sputtering targets can be reactively sputtered in a nitrogen-comprising sputtering atmosphere to form an alloy TiN film, or alternatively in a nitrogen-comprising and oxygen-comprising sputtering atmosphere to form an alloy TiON thin film. The thin films formed in accordance with the present invention can have a non-columnar grain structure, low electrical resistivity, high chemical stability, and barrier layer properties comparable to those of TiN for thin film Cu barrier applications. Further, the titanium alloy sputtering target materials produced in accordance with the present invention are more cost-effective for semiconductor applications than are high-purity tantalum materials and have superior mechanical strength suitable for high-power sputtering applications.

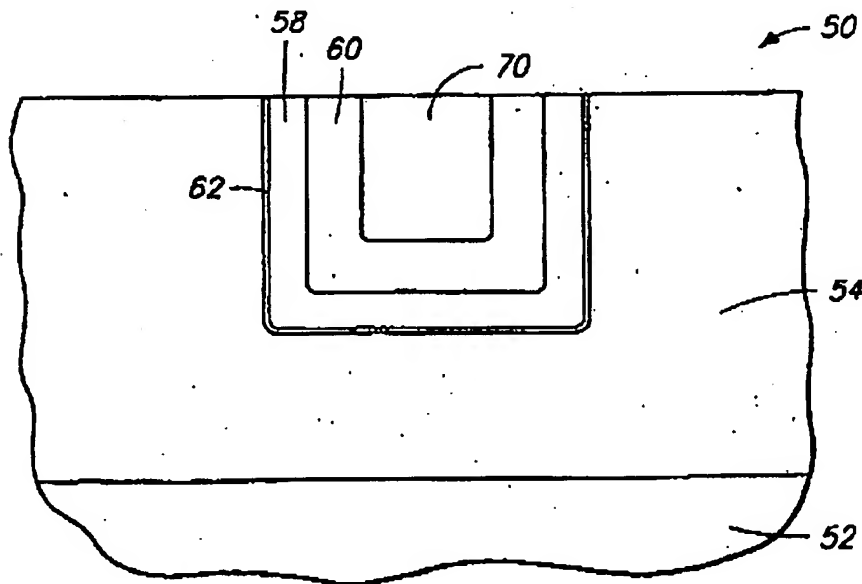
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(60) Provisional application No. 60/225,518, filed on Aug. 15, 2000.



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